nochiziqlilik nazariy natijalari mos kelib, tajribada o‘ta katta maydonlarda ham kuzatiladi (2–rasm). AFK–effekt sohasidagi nazariy va eksperimental tadqiqotlar [5], bir jinsli bo‘lmagan yarimo‘tkazgich yupqa pardalaridagi p–n o‘tishli supper ko‘p qatlamliliklar nazariyasining rivojlanishiga sabab bo‘ldi [6]. AFK–strukturalarning ekvivalent sxemasi tuzilib, volt–amper bog‘lanish uchun analitik ifoda topildi. Unga asosan volt–amper bog‘lanishlardagi dastlabki chiziqli soha ekvivalent sxemadagi, yarimo‘tkazgich hajmiy sohasi bilan bog‘liq shunt(parallel) qarshilik bilan bog‘liq. Volt–amper bog‘lanshining dastlabki chiziqlilik sohasining burchak koefitsientidan AFK–element yupqa pardalarning qarshiligi (R_T) aniqlandi. Uning qiymati $10^{10} \div 10^{14} Om$ tartibida bo‘lgan. Demak, anomal yuqori kuchlanish faqat katta qarshilikli namunalarda kuzatiladi.

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OPTIONAL TRANSITION MECHANISMS AND THEIR REVERSE AND LIGHT CHARACTERISTICS IN HETEROSEXUAL FUNCTIONS

Kholdorov Mukhammadkarim, Mamirjonova Gulnoza

FarDU basic doctoral student, Master of Fergana State University

xoldorov8668@mail.ru

Annotation. This article is devoted to the study of the mechanism of voluntary transition in ghetto functions and their reverse and light characteristics. This study explored the transition processes of ghetto functions, their physical and chemical properties, and how these processes change under the influence of reverse and light. Based on experimental data and theoretical analysis, a detailed analysis of the effectiveness of transition mechanisms in ghetto functions and their light-related characteristics were analyzed.

Keywords Getero Functions, Transition mechanism, Inverse Features,The effects of lighting,Physical features,Chemical Properties,Experimental Analysis,Theoretical, analysis,Optical Properties,Electrical Properties, Photovoltaic Systems, Optoelectronic devices

The grounding mechanism in such structures can be examined by applying VAX analysis to heteroscedastics under different light and temperature conditions. The analytical formula reflects the power dependence of the current on external voltages in pn junctions in most cases:

$$I = I_0 \left[\exp(\frac{eU}{kT}) - 1\right] \quad (1)$$

Here I_0- reverse saturation current.

e- electron charge.

U-external tension.

K- Bolsman's constant.

However, investigations have shown that it is more convenient to use the formula 1) than the formula (2) to express the earth transition mechanism in p-n junctions, especially in heteros.

$$I = I_0 \left[\exp(\frac{eU}{nkT}) - 1\right] \quad (2)$$

Here p is the diode factor and takes into account the deviation of the experiment from the theory.

Theoretically, the current strength in p-n junctions depends exponentially on the flow of current in the right direction, p=1. The following technical specifications are subject to change.

Melt temperature, processing time, CdTe element characteristics (U_{xx}, I_{K3}) and temperature all affect how acidic the melt becomes. Processing time in thin film solution is 5 seconds in both scenarios. As shown in the figure below, U_{xx} and I_{K3} reach their maximum values with a melting temperature of 80^0C and a liquid acid of pN-6. Accordingly, in the experiments of this research, the following values are defined as the ideal technical mode:

rN=6, t=5 sec, $t^0= 80^0$S.

Reverse VAX. Similar to VAX measured in the right direction, VAX measured in the other direction is 300-325 K. At this temperature, the current graph points in the other direction, depending on the power supplied.

The dependence of the reverse current on the voltage in the I-field (U<0.5 B) is as follows:

$I\ U^n$ it is p=0.7 - 0.8, and in this area thermogeneration and uchetka currents are added.

Dependence of the current on the voltage in the 2nd area:

I Un is equal to p=1.5 – 3. Here, the flow of current can be explained by the tunneling mechanism.

VAX in light. VAX is also important in light for CdTe components, whose analytical expression may be similar:

$$I = \sum_{i=1}^{n} I_{0i}\left[\exp\left(\frac{e(U-\text{IRn})}{n_i \text{kT}}\right)-1\right] - I_{\Phi} + \frac{U-\text{IRn}}{\text{Rш}}, \qquad (3)$$

hereI_{0i}-components of reverse saturation current.

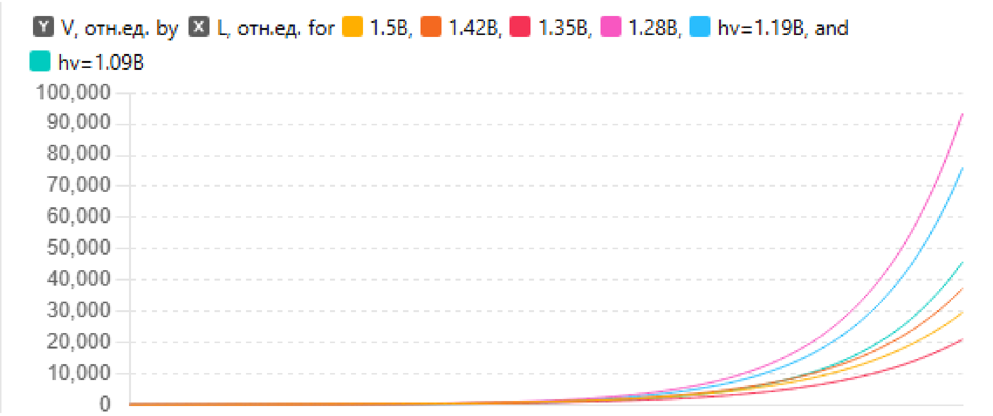
Rn- series resistance of p-junction,

$R\text{ø}$ - shunt resistance of p-junction

I_{Φ}- photocurrent.

VAX, i.e., the intrinsic properties of the photovoltaic cell, is the main determinant of the efficiency of CdTe cells. The typical characteristics of a photovoltaic cell should ideally be a rectangular one with a very modest series resistance of the pn junction and an infinitely large shunt resistance. p-n series resistance Rp has a certain size in the real world. Therefore, the resistance is not infinite, in which case the properties of the photocell will not be equal to those of a rectangle. The optimal voltage corresponds to a certain value according to the current of the photocell (optimal current and optimal voltage at a certain value of the external charge).

The ratio of this optimal power to the product of U_{xx} and I_{K3} is called the filling coefficient of the load characteristic. The higher the fill factor of a photovoltaic cell, the higher its efficiency. Figure 1 shows a typical peak characteristic for a CdTe element obtained at a light intensity of 60 mW/cm2. As can be seen from the picture, the detailed characteristic of the photocell is sharply different from the rectangle, and the filling factor is 0.35-0.4.



1 picture. Luc-volt characteristic of CdTe cell in monochromatic light.

As shown in the conduction band SiO_2 diagram, this heterojunction passes through CdTe through the dielectric layer when a DC voltage is supplied from the surface. It is also shown that the conduction band of the semiconductor is conducted by deep levels in the dielectric layer. The thickness of the seed dielectric layer is 0.4 mm.

The transition mechanism in such structures can be examined by applying VAX analysis to heteroscedastics under different light and temperature conditions. In most cases, the analytical formula reflects the power dependence of the current on external voltages in pn junctions: charge carriers from the CdTe semiconductor are transferred by external voltage charge carriers placed between the CdTe thin layer and the Si polycrystal to the deep level and the glove in the SiO_2 dielectric layer is being transmitted. The amount of applied power determines the photosensitivity of thin layers at the interface between SiO_2 dielectric layers and charge carriers in SiO_2 thin layers. As the voltage increases, the photoconductivity of the CdTe thin layer increases under the influence of the ordered charges in the dielectric of the charge carriers. We can find out by looking at the graph of the results obtained based on experiments.

Thus, there is a possibility to explain the increase of photoconductivity in CdTe-SiO_2-Si-Al heterojunction through the proposed electron transfer mechanism.

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GELIOOPTRON QURILMASINI ISHLAB CHIQISH

Yuldashev Abror Abduvositovich, Ismoilov Yaxyobek Iqboljon o‘g‘li
Farg’ona davlat universiteti

Annotatsiya: Geliooptron kuchli elektr maydonlari hosil qilish uchun kvant gruppasidagi asboblarni ishlashini ta’minlaydigan geliooptoelektron sistema hisoblanadi. Shuningdek kuchli elektr maydonlaridan mikroelektronika sohasida ham foydalanilishi imkonini yaratib beradi. Bunda quyoshdan kelayotgan nurlarning ta’sirlaridan foydalanib, yuqori elektr maydon hosil qilish usuli ishlab chiqilgan.

Kalit so‘zlar: Fotoelektr, radiatsiya, qarshilik, fotoelektrik, to‘lqin uzunligi, yorug‘lik diodi, termoelektrik.

Yerga quyoshdan yorug’lik, issiqlik, radiatsiya va boshqa ko’rinishdagi juda katta energiya kelib tushadi. Ammo taklif qilinayotgan qurilmaga texnik jixatdan yaqin bo’lgan mavjud qurilmalarda [2,3,4] ulardan bittasining ta’siridan foydalaniladi, misol uchun yorug’lik yoki issiqlik. Taklif qilinayotgan geliooptron ixtirosida universallik va ko’p funksiyalilik taminlangan. Shuningdek quyosh nurining barcha ko’rinishdagi ta’sirlaridan birdaniga yuqori samarali foydalaniladi.

Texnik masalani hal qilish uchun qurilma ionstruksiyasida yupqa pardali elementlardan tuzilgan bo’lib, qurilmaning mustahkamligi, muhim ishlashi va materiallarni tejamkorligi bilan ajralib turadi.